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SUSTAINABLE MANAGEMENT OF PRODUCTION ACTIVITIES IN POLISH ENTERPRISES OF THE FOOD INDUSTRY

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Environmental degradation results, among others, from the production activities of enterprises. Industry has a significant negative impact on the environment and society. As a result of the destructive impact of industry on the natural and social environment, there is a need to change the current management of production activities of enterprises, including those from the food sector, by introducing a balanced organisation management system. The introduction of the article draws attention to sustainable development as a trend setting the direction of the production activity of modern enterprises. The purpose of the study was also included: The aim of the study is to examine the attitudes and behaviours of management and non-managerial staff employed in Polish food companies in terms of the degree of sensitivity to sustainable development problems, practice and knowledge, and the desire to obtain additional information on sustainable development. The next part of the article presents the essence of production in relation to sustainable development. Definitions and concepts of sustainable development are presented by individual authors. The basic idea of the concept of sustainable development was briefly presented. The final part of the study presents the results of research conducted among staff employed in food enterprises. The study is concluded with a summary.

Key words: production activity, staff, food company, sustainable development.
JEL Codes: M21, M5, Q56.

1. Introduction

Considering the management of production activities in a sustainable aspect, it should be emphasised that enterprises are facing constant changes taking place in their environment. Companies are interdependent organizations embedded in a global systemic environment that calls for sustainable management of natural, social, and financial resources (Adams, Jeanrenaud, Bessant, Denyer, Overy, 2016; Joyce, Paquin, 2016). Sustainable development is one of the main changes affecting the business management policy of an enterprise (Schaltegger, Hansen, 2016; Nawaz, Koc, 2019). Therefore, the management has the responsibility to properly prepare the enterprise for the requirements of sustainable development. Sustainable management has gained increased attention in the global scenario in light of the unbridled consumerism experienced since the Industrial Revolution when an economy unable to hold the society's economic progress emerge (Holton, Glass, Price, 2010; Asif, Searcy, 2014; Siew, 2015; Salzmann, Ionescu-Somers, Steger, 2005). The adoption of sustainability strategies is attractive from the business point of view, and the results of its implementation, can be pollution prevention, reduction of harmful emissions, and waste minimization (Kurdve, Shahbazi, Wendin, Bengtsson, 2015); cost reduction resulting from progress on eco-efficiency issues and product innovation (Gilinsky, A., Newton, S.K., Atkin, T.S., Santini, C., Alessio, C., Casas, A.R, Huertas, 2015); better relationships with regulators and other stakeholders through legal compliance and retention of customers that recognize environmental values (Epstein, Roy, 2001) and a contribution to fulfilling social needs (Székely, Knirsch, 2005), among others.

Innovative management of sustainable production activities requires a reorientation of existing management functions, which include planning, organising, directing and motivating employees as well as controlling production activities. Adaptation of these areas of business management to the principles of sustainable development will contribute to transforming the enterprise into a sustainable economic organisation (Wirtz, Pistoia, Ullrich, Göttel, 2016). Effective management of a sustainable enterprise, including staff at all levels of employment requires the implementation of the listed management functions and their appropriate adaptation to the individual needs and conditions of the enterprise (Geissdoerfer, Vladimirova, Evans, 2018).

High-level employee staff making strategic decisions in an enterprise should be aware of the importance of matching management functions to the requirements of sustainable development ideas. The recruitment, selection, remuneration, training, and integration practices of the new employees with the organizational culture should be adjusted in order to promote sustainable development (Lee, Farzipoor, 2012). The manner and degree of implementation of sustainable production management will have a significant impact on the functioning and success of the enterprise on the market in the changing economic environment of the organisation. (Fjeldstad, Snow, 2018). Regarding the above, a research problem was included, which was presented as: determining the degree of sensitivity of employed staff in the field of environmental protection and social problems.

The manufacturing activity of food enterprises depends on the availability of various natural resources of the Earth. Obtaining natural resources, raw materials, components for production and semi-finished products determines the implementation of production processes. In addition, the company must be equipped with machinery and equipment that will produce specific goods (Ünal, Urbinati, Chiaroni, 2019). It is also associated with the provision of energy sources, fuels, gases, water, so that appropriate devices can be put into operation. Organising production requires efficient management including planning, organising, motivating staff and controlling production activities (Bocken, Short, Rana, Evans, 2014). The goals and ways of achieving them are determined at the stage of planning a production activity. The document that is created as a result of these activities can be called a sustainable production plan (Žižka, 2013).

The enterprise that defines itself as a sustainable enterprise must take into account all environmental and social aspects in its operations (Ong, The, Ng, Soh, 2016). At first, corporate engagement with sustainable development was focused on understanding the meaning of sustainability and its possible implications for their businesses. Over time, a growing part of companies began to raise awareness not only about its meaning but also about the need to act effectively on it (Mura, Longo, Micheli, Bolzani, 2018). Corporate sustainability focuses equally on environmental, social and economic performance, which is often operationalized through the bottom line (TBL) (Moldavska, Welo, 2017; Milne, Gray, 2013). The social, economic and environmental dimensions of the triple bottom line are the core of the mainstream sustainability thinking (Steurer, Langer, 2005; Adams, 2006). By using the TBL, companies can be oriented towards sustainable management, thus including concern with profit, people, and the planet in their culture, strategies, and operations (Gimenez, Sierra, Rodon, 2012; Hammer, Pivo, 2017). Balancing the company's economic goals with environmental and social goals is not an easy task. Sustainable development, which has become a response to global environmental and social threats, is a helpful measure in balancing these goals. Rogall (2010) writes: "sustainable development aims to provide all living people and future generations with sufficiently high ecological, economic and socio-cultural standards within the limits of the natural endurance of the Earth, applying the principle of intergenerational and intergenerational justice". A similar view on the essence of sustainable development is expressed by Dam and Apeldoorn. The authors define it as a development that takes into account the needs of the present, without crossing out the possibility of meeting them by future generations (Dam, Apeldoorn 2008). When reviewing the literature on sustainable development, one can find the interpretation of the concept proposed by Belz and Peattie. The authors say that there are many different approaches to the essence of sustainable development. The authors present

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the concept of *hard sustainability*, which (focuses on maintaining the quality of the environment by protecting this environment as a result of rational business operations) and *soft sustainability*, which (focuses on ensuring that economic development can be maintained by limiting the impact on the natural environment and society) (Belz, Peattie, 2010).

When reviewing the literature on sustainable development, it can be stated that the essence of this concept is focused on respecting the natural environment and considering social aspects in the business operations of enterprises while considering economic goals of the organisation. The behaviour of enterprises in accordance with the principles of sustainable development is designed to ensure development opportunities for future generations, and even to increase these development opportunities (Bocken, Rana, Short, 2015; Nunhes, Bernardo, de Oliveira, 2020). Corporate Sustainability Management is a strategy of decision-making based on various levels of analysis of social, economic, and environmental issues that act as drivers for aligning a company's business model with its business strategy (Lloret, 2016). Corporate Sustainability Management aims to meet the needs of internal stakeholders (employees, shareholders, and managers) and external stakeholders (e.g., customers, suppliers, society, government) without compromising the ability to serve them in the future (Roca, 2012).

One of the reasons for the emergence of the concept of sustainable development can be indicated the increase in the population of the Earth and the associated increased demand for various types of products and services. The increase in demand caused the enterprises to increase production in order to meet the growing needs of the population. The presented dependence has a negative impact on the condition of the environment and society (Pieroni, McAloone, Pigosso, 2019).

2. The aim of the research

The aim of the study is to examine the attitudes and behaviours of management and non-managerial staff employed in Polish food companies in terms of the degree of sensitivity to sustainable development problems, practice and knowledge, and the desire to obtain additional information on sustainable development. The human factor is the basic factor for the development of sustainable management of production activity in enterprises of the food industry. Such features of employee staff as: socio-ecological sensitivity, knowledge, experience, or the desire to obtain information on sustainable development significantly determine the implementation and development of sustainable management of production activities in the food industry in Poland. Both employees employed in managerial and non-managerial positions have an impact on the policy regarding the design, production, implementation and sale of sustainable food products.

The concept of sustainable development requires food industry companies to go beyond the conventional perception of the role of an organisation focused on achieving economic goals through production and sales activities. The ideas of sustainable development, as the main values indicate the natural environment and social aspects. The achievement of financial goals by the company goes to the background, but for understandable reasons is not ignored and overlooked in the assumptions of sustainable development

3. Research methods

The research method used in the study was a personal interview. The advantage of the interview method is its high reliability, guaranteed by the possibility to ask questions directly related to the phenomena studied. The research carried out by means of the interview method consisted of asking unified and the same formulated questions and circling the answers in the same order in which the questions were asked. The advantage of this research method was the direct contact with the respondent when asking questions, which enabled them to deepen specific thematic

issues, and also gave the respondent the opportunity to develop and justify statements. In addition, direct contact with the respondent enabled building mutual trust between the respondent and the researcher, which had a positive impact on the honesty of the answers given. The interview was conducted in cities where the surveyed food industry enterprises have their headquarters. The respondents were employees working in the surveyed enterprises in managerial and non-managerial positions. The research was carried out from June to August 2019.

In addition to the personal interview method, two other interview methods were used in the study, namely the CATI (*Computer Assisted Telephone Interview*) interview method and the CAWI (*Computer Assisted Web Interview*) method in which the respondent was asked to complete a research questionnaire in electronic form contained in the web application. The presented methods have many advantages. The use of the CATI method enables research to be carried out on large targeted samples in a short time and at relatively low costs. The CAWI method, as in the case of the previous method, also makes it possible to carry out tests on very large samples, in a short time and with low testing costs. In addition, the advantage of this method is the anonymity of the respondent, and thus the freedom to provide answers, e.g. to questions about the amount of earnings. The general purpose of the methods used was to learn the facts and capture as much detail as possible in relation to the questions raised.

The tool used to conduct the research was a questionnaire containing an ordered list of questions. It included questions about socio-ecological sensitivity, knowledge, experience, or the desire to obtain information on sustainable development. The questionnaire contained open questions that give freedom to formulate answers, and closed questions that limit the answer to one of the options given. The determination of the measurement scale was important in the work on constructing the research tool. The research used a seven-point version of the Likert scale to increase measurement accuracy. The seven-level scale gives a slightly higher measurement accuracy when a single statement is evaluated. This positive effect, however, decreases with the number of sentences to which the subject is supposed to respond.

The group of samples used in the study was random, which means that each person had the same chance to choose. 74 employees employed in managerial and non-managerial positions in food enterprises in Poland took part in the study. To approximate the structure of respondents, a characteristics of the sample group was made in terms of the number of employees in the enterprise, position held and seniority.

Table 1. Characteristics of the sample group

Number of employees					
0- 49		50 - 249		250=>	
Number of enterprises	Percentage of enterprises	Number of enterprises	Percentage of enterprises	Number of enterprises	Percentage of enterprises
12	16,2 %	42	56,8 %	20	27 %
Position held					
Managerial			Non-managerial		
Number of respondents	Percentage of respondents		Number of respondents	Percentage of respondents	
50	67,6%		24	32,4 %	
Seniority					
5 years and less		6 - 10 years		11 - 20 years	21 - 30 years
Number of respondents	Percentage of respondents	Number of respondents	Percentage of respondents	Number of respondents	Percentage of respondents	Number of respondents	Percentage of respondents
27	36,5 %	22	29,7 %	22	29,7 %	3	4,1 %

The organisations participating in the survey are mostly medium-sized enterprises employing from 50 to 249 employees. The respondents who participated in the survey were persons holding mainly managerial positions. The dominant period of employment of persons providing information during the survey is 5 and less years.

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4. Results

The introduction of management mechanisms for production activities that consider the principles of sustainable development depends to a large extent on the attitude of management and non-management staff in the field of ecological and social sensitivity.

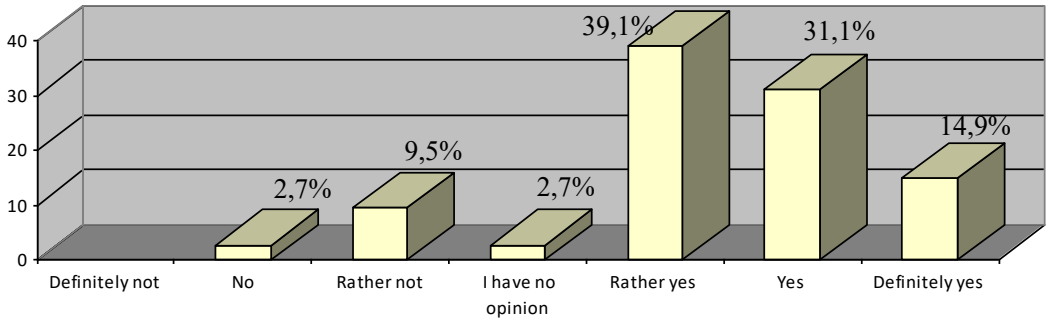

Figure 1. Sensitivity of staff on the problems of sustainable development

Referring to the data provided in (Fig. 1), it can be pointed out that the examined staff is sensitive to environmental and social problems. The answers *rather yes*, *yes, definitely yes*, 85.1% of the surveyed employees of the organisation altogether said yes. No sensitivity to social and environmental issues *rather not, not* indicated 12.2% of respondents. 2.7% respondents did not take a clear position on this issue. The research questionnaire also contained a question about professional experience in the environmental and pro-social area that the surveyed staff of the food industry enterprises have.

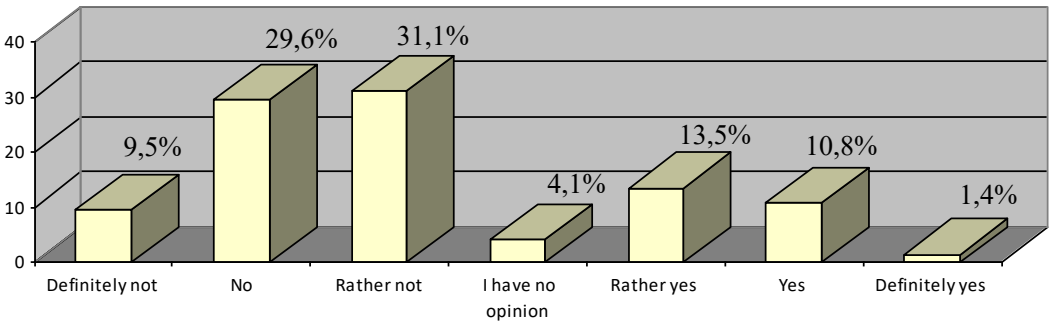

Figure 2. Professional experience of the staff in the area of sustainable development

The obtained results prove that the employees participating in the survey do not have professional experience in this area. Lack of experience - *definitely not, not rather not* - shows a total of 70.2% of employees of managerial and non-managerial positions. On the other hand, 25.7% indicated professional experience gained in previous years in the pro-social and environmental environment, with the answers: *rather yes, yes, definitely yes*. The remaining respondents, i.e. 4.1%, referred ambiguously to this issue.

The knowledge of management and non-management staff about the concept of sustainable development plays a key role in implementing sustainable management of production activities.

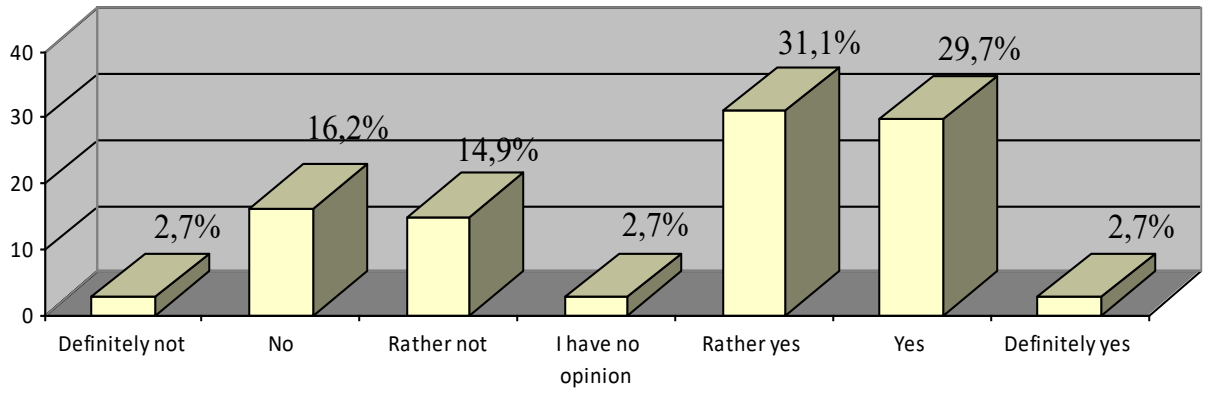

Figure 3. Knowledge of staff about the concept of sustainable development

The obtained research results prove that the concept of sustainable development is known among the surveyed employees. An affirmative answer, *rather yes, yes, definitely yes* is shown by 63.5% of respondents. However, 33.8% of respondents do not know this concept - the answer is *rather not, not, definitely not*. The remaining 2.7% of respondents could not give an unequivocal answer. A complement of the research was the issue of employees' efforts to obtain more information on sustainable development.

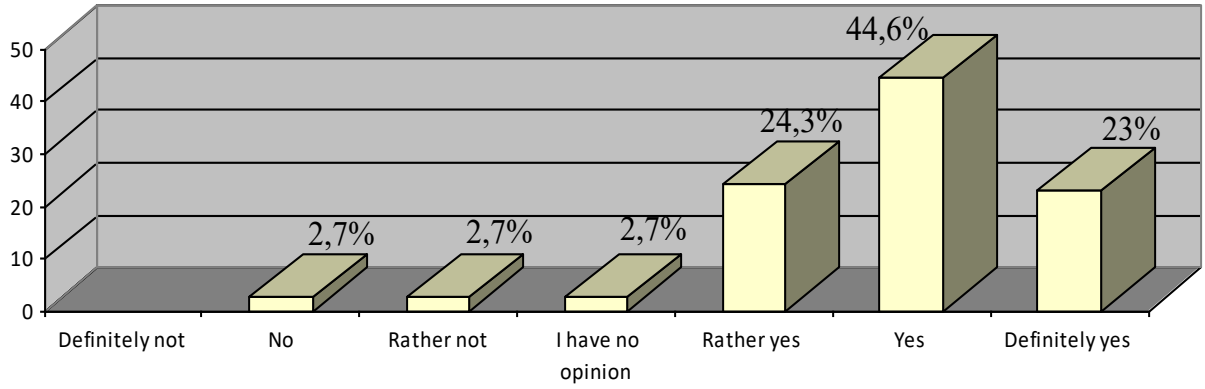

Figure 4. The willingness to obtain additional information on sustainable development

The research results in the field of obtaining information on sustainable development by employees may be optimistic, because as many as 91.9% of respondents declare the will to obtain information on sustainable development - the answer is *rather yes, yes, definitely yes*. No willingness is expressed by 5.4% of the respondents – answer: rather *not, no.* While 2.7% have no opinion.

To generalize the observed results, confidence intervals of 0.95 confidence were built.

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Table 2. Structure confidence intervals for staff attitudes and opinions regarding the concept of sustainable development

Intervals	Staff attitudes regarding sustainable development
At least 77.08% and at most 93.24% of employees	Declares sensitivity to environmental and social problems
At least 15.79% and at most 35.63% employees	Possesses professional experience in the environmental and pro-social area
At least 52.62% and at most 74.48% employees	Declares they know the concept of sustainable development
At least 85.71% and at most 98.11% of employees	Declares willingness to obtain more information on sustainable development
At least 4.76% and at most 19.61% employees	Declares no sensitivity to environmental and social problems
At least 59.93% and at most 80.68% of employees	Declares the lack of professional experience in the environmental and pro-social area
At least 23.08% and at most 44.56% of employees	Declares no knowledge of the concept of sustainable development
At least 0.29% and at most 10.56% of employee	Declares no desire to obtain more information on sustainable development

Referring to the data presented in Table 2, it can be indicated that the staff employed in confectionery industry enterprises is sensitive to environmental and social problems and knows the concept of sustainable development.

5. Conclusions

Based on the research, it can be concluded that employees of the surveyed organisations are sensitive to environmental and social problems and know the concept of sustainable development. However, it should be noted that the majority of respondents (70.2%) do not have professional experience in the environmental and pro-social area.

The results achieved regarding the employees' awareness of the concept of sustainable development deserve positive attention. Over half of the respondents said they knew the concept of sustainable development. In the last examined issue regarding the desire to obtain more information on sustainable development, it can also be stated that the obtained research results are highly satisfactory.

The production activity of enterprises, especially in the area of heavy industry, is accused of environmental degradation and social problems. Emission of harmful gases and substances into the atmosphere, sewage disposal, production waste production, or excessive exploitation of raw materials are just a few examples of the negative impact of industry on the planet's ecosystem and the standard of living of societies.

In order to limit the destructive behaviour of some manufacturing enterprises, the author of this article has attempted to develop a procedure for managing sustainable production activities in food industry enterprises. The main task of the proposed procedure is to implement the principles of food production management in a sustainable aspect.

Table 2. Sustainable production management procedure

Management of sustainable food production			
Environmental aspects		**Social aspects**	
Stage 1	**Stage 2**	**Stage 1**	**Stage 2**
Complete elimination or reduction of atmospheric emissions of gases, dusts and fragrances.	Use of energy and fuels from renewable sources (replacement of fossil fuels with renewable energy).	Eliminating from the production of substances and ingredients harmful to human health, e.g. chemical preservatives, artificial colours, flavour enhancers, etc.	Providing employees with health and safety at work as well as favourable working condition.
Stage 1	**Stage 2**	**Stage 1**	**Stage 2**
Effective and economical use of water in production processes.	Limitation of sewage and post-production waste production.	Guaranteeing fair remuneration for employees.	Selection of ecologically and social sensitive people for work.

The presented procedure covers environmental and social aspects. In each of these two areas there are four stages of conduct leading to the implementation of sustainable production of food products. The author recommends taking all actions contained in this procedure leading to ensuring sustainable production of food products. Selective use of individual activities will result in incomplete management of production activities in food industry enterprises and take on an apparent character.

Sustainable management of production activity in the surveyed enterprises of the food industry in Poland is largely dependent on the attitudes of middle and high-level managers and staff employed in rank-and-file positions. In addition to the attitudes and behaviour of corporate staff, the attitude of consumers themselves also has a significant impact on production. Excessive consumerism is currently observed. Societies are becoming more and more consumer, which translates into the volume of production in order to meet the increasing demand. For this reason, responsibility for the fate of societies and the state of the environment lies not only on sustainable production management, but also on consumers.

The article and research results are addressed to practitioners and theorists dealing with the issues of sustainable business management, with emphasis on sustainable production management. The study may serve as support for food industry enterprises in pursuit of the set economic, environmental and social goals.

References

Adams, R., Jeanrenaud, S., Bessant, J., Denyer, D., Overy, P. (2016). Sustainability-oriented Innovation: A Systematic Review // *International Journal of Management Reviews*, Vol. 18.: 180–205.- https://doi.org/10.1111/ijmr.12068

Adams, W.M. The Future of Sustainability: Re-thinking Environment and Development in the Twenty-first Century; Report of the IUCN Renowned Thinkers Meeting; World Conservation Union: Gland, Switzerland, 2006; Vol. 29.: 1–18.

Asif, M., Searcy, C. (2014). Towards a standardised management system for corporate sustainable development // *The TQM Journal*, Vol. 26. No. 5.: 411- 430. https://doi.org/10.1108/TQM-08-2012-0057

Belz, F.M., Peattie, K. (2010). Sustainability Marketing. A Global Perspective, J. Wiley & Sons. 12 p.

Bocken, N.M.P., Rana, P., Short, S.W. (2015). Value mapping for sustainable business thinking // *Journal of Industrial and Production Engineering*. Vol. 32. No. 1.: 67–81. -https://doi.org/10.1080/21681015.2014.1000399

Bocken, N.M.P., Short, S.W., Rana, P., Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes // *Journal of Cleaner Production*. Vol. 65.: 42–56.- https://doi.org/10.1016/j.jclepro.2013.11.039

Dam Y., Apeldoorn P. (2008). Zrównoważony marketing. Critical Marketing. Contemporary Issues in Marketing, J. Wiley & Sons, UK, 254 p.

Epstein, M.J., Roy, M. J. (2001). Sustainability in Action: Identifying and Measuring the Key Performance Drivers // *Long Range Planning* Vol. 34.: 585–604. - https://doi.org/10.1016/S0024-6301(01)00084-X

Fjeldstad, Ø.D., Snow, C.C. (2018). Business models and organization design // *Long Range Planning*. Vol. 51. No. 1.: 32–39.- https://doi.org/10.1016/j.lrp.2017.07.008

Geissdoerfer, M., Vladimirova, D., Evans, S. (2018). Sustainable business model innovation: A review // *Journal of Cleaner Production.* Vol. 198.: 401–416.- https://doi.org/10.1016/j.jclepro.2018.06.240

Gimenez, C., Sierra, V., Rodon, J. (2012). Sustainable operations: Their impact on the triple bottom line // *International Journal of Production Economics*, Vol. 140.: 149–159.

Gilinsky, A., Newton, S., Atkin, T., Santini, C., Alessio, C., Casas, A., Huertas, R. (2015). Perceived efficacy of sustainability strategies in the US, Italian, and Spanish wine industries // *International Journal of Wine Business Research,* Vol. 3.: 164–181.- https://doi.org/10.1108/IJWBR-10-2014-0047

Hammer, J., Pivo, G. (2017). The Triple Bottom Line and Sustainable Economic Development Theory and Practice // *Economic Development* Quarterly. Vol. 31.: 25–36. - https://doi.org/10.1177%2F0891242416674808

Holton, I., Glass, J., Price, A.D.F. (2010). Managing for sustainability: Findings from four company case studies in the UK precast concrete industry // *Journal of* Cleaner *Production*, Vol. 18.: 52–160. - https://doi.org/10.1016/j.jclepro.2009.09.016

Joyce, A., Paquin, R.L. (2016). The triple layered business model canvas: A tool to design more sustainable business models // *Journal of Cleaner Production*. Vol. 135.: 1474–1486.- https://doi.org/10.1016/j.jclepro.2016.06.067

Kurdve, M., Shahbazi, S., Wendin, M., Bengtsson, C. (2015). Waste flow mapping to improve sustainability of waste management: A case study approach // *Journal of* Cleaner *Production*, Vol. 98.: 304–315. - https://doi.org/10.1016/j.jclepro.2014.06.076

Lee, K., Farzipoor, R. (2012). Measuring corporate sustainability management: A data envelopment analysis approach // *International Journal* of *Production Economics*, Vol. 140.: 219–226.- https://doi.org/10.1016/j.ijpe.2011.08.024

Lloret, A. (2016). Modeling corporate sustainability strategy // *Journal of Business Research* Vol. 69.: 418–425. - https://doi.org/10.1016/j.jbusres.2015.06.047

Milne, M.J., Gray, R. (2013). W(h)ither Ecology? The Triple Bottom Line, the Global Reporting Initiative, and Corporate Sustainability Reporting // *Journal of Business Ethics* Vol. 118, No. 1.118.: 13–29.

Moldavska, A., Welo, T. (2017). The concept of sustainable manufacturing and its definitions: A content-analysis based literature review // *Journal of Cleaner Production.* Vol. 166.: 744–755.- https://doi.org/10.1016/j.jclepro.2017.08.006

Mura, M., Longo, M., Micheli, P., Bolzani, D. (2018). The Evolution of Sustainability Measurement Research // *International Journal of Management Reviews*, Vol. 20.: 661–695. - https://doi.org/10.1111/ijmr.12179

Nawaz, W., Koc, M. (2019). Exploring Organizational Sustainability: Themes, Functional Areas, and Best Practices // *Sustainability*, Vol. 11, No. 16.: 4307.- https://doi.org/10.3390/su11164307

Nunhes, T., Bernardo, M., de Oliveira, O., (2020). Rethinking the Way of Doing Business: A Reframe of Management Structures for Developing Corporate Sustainability // *Sustainability*, Vol. 12, No. 3.: 1177.- https://doi.org/10.3390/su12031177

Ong, T.S., Teh, B.H., Ng, S.H., Soh, W.N. (2016). Environmental Management System and Financial Performance // *Institutions and Economies*. Vol. 8. No. 2.: 26–52.

Pieroni, M.P.P., McAloone, T.C., Pigosso, D.C.A. (2019). Business model innovation for circular economy and sustainability: A review of approaches // *Journal of Cleaner Production*. Vol. 215.:198–216. - https://doi.org/10.1016/j.jclepro.2019.01.036

Roca, L.C., Searcy, C. (2012). An analysis of indicators disclosed in corporate sustainability reports // *Journal of* Cleaner *Production*, Vol. 20.: 103–118.- https://doi.org/10.1016/j.jclepro.2011.08.002

Rogall, H. (2010). Ekonomia zrównoważonego rozwoju. Teoria i praktyka, Zysk i S-ka, Poznań. 44 p.

Salzmann, O., Ionescu-Somers, A.M., Steger, U. (2005). The business case for corporate sustainability: Literature review and research options // *European Management Journal*, Vol. 23.: 27–36.- https://doi.org/10.1016/j.emj.2004.12.007

Schaltegger, S., Hansen, E.G., Lüdeke-Freund, F. (2016). Business Models for Sustainability: Origins, Present Research, and Future Avenues // *Organization & Environment*. Vol. 29. No 1.: 3–10. - https://doi.org/10.1177%2F1086026615599806

Siew, R.Y.J. (2015). A review of corporate sustainability reporting tools (SRTs) // *Journal of Environmental Management*, Vol.164.:180–195.- https://doi.org/10.1016/j.jenvman.2015.09.010

Steurer, R., Langer, M.E. (2005). Corporations, Stakeholders and Sustainable Development I: A Theoretical Exploration of Business – Society Relations // *Journal Business of Ethics*, Vol. 61.: 263–281.

Székely, F., Knirsch, M. (2005). Responsible leadership and corporate social responsibility: Metrics for sustainable performance // *European Management Journal* Vol. 23.: 628–647. - https://doi.org/10.1016/j.emj.2005.10.009

Ünal, E., Urbinati, A., Chiaroni, D. (2019). Managerial practices for designing circular economy business models // *Journal of Manufacturing Technology Management*. Vol. 30. No. 3.: 561–589.

Wirtz, B.W., Pistoia, A., Ullrich, S., Göttel, V. (2016). Business Models: Origin, Development and Future Research Perspectives // *Long Range Planning*. Vol. 49. No.1.: 36–54. - https://doi.org/10.1016/j.lrp.2015.04.001